24 (currently amended). In a data processing network having a production site, first and second remote sites, a first communications link between the production and first remote [site] sites and a [communication] second communications link between the first and second remote sites wherein the production site includes a magnetic disk storage device and a host adapted to update the data in the magnetic disk storage device, wherein the first remote site includes a first data store that mirrors the data in the magnetic disk storage device, a second data store that operates in a first mode to mirror the data on the first data store and a copy program, and wherein the second remote site includes another data store, the data processing network being characterized by a method for providing a backup of the data at the production site in each of the first and second remote sites by:

    A)   establishing in the first remote site first and second tables for recording the occurrence of any change in the data in first data store and a third table for recording the need for any transfer of data from the second data store to the data store in the second remote site[[,]];

    B)   initially establishing a state during a second operating mode whereby the data in the data store in the second remote site corresponds to the data in the first data store at a point in time[[,]];

    C)   reestablishing the first operating mode for the

second data store by combining information in the
first and third tables to identify the changes made
to the first data store while the second data store
was operating in [[the]]a second operating
mode[[,]]; and

D) differentially splitting, after synchronism is
achieved between the first and second data stores,
the second data store from the first data store by:

i) copying the information in the second table to
the third table[[,]];

ii) clearing the second table[[,]]; and

iii) enabling the copy program to transfer the
changed data in the second data store to the
data store in the second remote site, whereby
the data store in the second remote site is
brought into synchronism with the data that
existed in the first data store at the time of
said differential splitting.

25 (currently amended). A method as recited in claim 24
wherein said initial establishment includes:

i) establishing a first operating mode for the
second data store whereby the second data
store is brought into synchronism with the
first data store[[,]]; and

ii) splitting to shift the second data store to
a second operating mode after synchronism
is achieved during which:

a) the copy program copies data from the

second data store to the data store in
the second remote site in response to
the information in the third
table[[,]]; and

b)   the first and second tables are
updated each time the data in the
first data store is altered.

26 (previously presented).   A method as recited in claim 25
wherein the host generates a first command to initiate
said reestablishment step and a second command to initiate
said differential splitting and wherein the method
includes conveying the first and second commands to the
first remote site on an iterative basis for effecting a
cascading session during which the first and second
operating modes are processed on a mutually exclusive
basis.

27 (previously presented).   A method as recited in claim 25
wherein the magnetic disk storage devices have data
storage tracks and wherein said copying occurs on a track-
by-track basis, each of the first, second and third tables
being formed as track tables with one bit position
corresponding to one track.

28 (previously presented).   A method as recited in claim 27
wherein the first data store includes storage for diverse
information about each track, said method including the

step of copying the diverse information to the second
table.

29 (currently amended). A method as recited in claim 28
wherein the host generates a first command to initiate
said establishment step, a second command to initiate said
splitting operation and then issues [[a]] third and fourth
commands iteratively and on a mutually exclusive basis,
the third command initiating the reestablishment step and
the fourth command initiating differential splitting
whereby the commands effect a cascading session.

30 (currently amended). A data processing network having a
production site, first and second remote sites, a first
communications link between the production and first
remote [site]sites and a [communication] second
communications link between the first and second remote
sites wherein the production site includes a magnetic disk
storage device and a host adapted to update the data in
the magnetic disk storage device, wherein the first remote
site includes a first data store that mirrors the data in
the magnetic disk storage device, a second data store that
operates in a first mode to mirror the data on the first
data store and a copy program, and wherein the second
remote site includes another data store, the data
processing network including means for providing a backup
of the data at the production site in each of the first
and second remote sites comprising:

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A) table means for establishing in the first remote site first and second tables for recording the occurrence of any change in the data in first data store and a third table for recording the need for any transfer of data from the second data store to the data store in the second remote site[[,]];

B) initial establishing means for initially establishing a state whereby the data in the data store in the second remote site corresponds to the data in the first data store at a point in time[[,]];

C) reestablishment means for reestablishing the first operating mode for the second data store by combining information in said first and third tables to identify the changes made to the first data store while the second data store was operating in [[the]]a second operating mode[[,]]; and

D) differential split means for differentially splitting, after synchronism is achieved between the first and second data stores, the second data store from the first data store including:

i)   copy means for copying the information in said second table to said third table[[,]];

ii) clearing means for clearing said second table[[,]]; and

iii) enabling means for enabling said copy

program to transfer the changed data in the second data store to the data store in the second remote site, whereby the data store in the second remote site is brought into synchronism with the data that existed in the first data store at the time said differential splitting means operated.

31 (currently amended). A data processing network as recited in claim 30 wherein said initial establishment means includes:

i)   first mode means for establishing a first operating mode for the second data store whereby the second data store is brought into synchronism with the first data store[[,]];

ii) second mode means for shifting the second data store to a second operating mode after synchronism is achieved whereby said copy program copies data from the second data store to the data store in the second remote site in response to the information in said third table[[,]]; and

iii) updating means for updating said first and second tables each time the data in the first data store is altered.

32 (previously presented). A data processing network as recited in claim 31 wherein the host generates a first

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command activates said reestablishment means and a second
command activates said differential splitting means, said
network including means for conveying the first and second
commands to the first remote site on an iterative basis
for effecting a cascading session during which the first
and second operating modes are processed on a mutually
exclusive basis.

33 (previously presented).   A data processing network as
recited in claim 31 wherein the magnetic disk storage
devices have data storage tracks and wherein said copying
means processes data on a track-by-track basis, each of
said first, second and third tables being formed as track
tables with one bit position corresponding to one track.

34 (previously presented).   A data processing network as
recited in claim 33 wherein the first data store includes
storage for diverse information about each track and said
first remote site includes means for copying the diverse
information to said second table.

35 (currently amended). A data processing network as recited
in claim 34 wherein the host generates a first command to
activate said establishment means, a second command to
activate said splitting means and then [generates]to
generate third and fourth commands iteratively and on a
mutually exclusive basis, the third command activating
said reestablishment means and the fourth command

activating said differential splitting means whereby the
commands effect a cascading session.

36 (currently amended).   A data processing network having
a production site, first and second remote sites, a first
communications link between the production and first
remote [site] sites and a [communication] second
communications link between the first and second remote
sites wherein the production site includes a magnetic disk
storage device and a host adapted to update the data in
the magnetic disk storage device, wherein the first remote
site includes a first data store that mirrors the data in
the magnetic disk storage device, a second data store that
operates in a first mode to mirror the data on the first
data store and a copy program, and wherein the second
remote site includes another data store, the data
processing network including a program at the first remote
site for providing a backup of the data at the production
site in each of the first and second remote sites
comprising:

      A)   a configuration program module in a service
           processor at the first remote site for
           establishing first and second tables for
           recording the occurrence of any change in the
           data in first data store and a third table for
           recording the need for any transfer of data from
           the second data store to the data store in the
           second remote site[[,]];

B)   an establish program module for initially
     establishing a state whereby the data in the
     data store in the second remote site corresponds
     to the data in the first data store at a point
     in time[[,]];

C)   a reestablish program module for reestablishing
     the first operating mode for the second data
     store by combining information in said first and
     third tables to identify the changes made to the
     first data store while the second data store was
     operating in [[the]]a second operating
     mode[[,]]; and

D)   a differential split program module for
     differentially splitting, after synchronism is
     achieved between the first and second data
     stores, the second data store from the first
     data store including:

     i)   copying the information in said second
          table to said third table[[,]];

     ii) clearing said second table[[,]]; and

     iii) enabling said copy program to transfer the
          changed data in the second data store to
          the data store in the second remote site,
          whereby the data store in the second remote
          site is brought into synchronism with the
          data that existed in the first data store
          at the time said differential splitting.

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37 (currently amended). A program as recited in claim 36
wherein said initial establishment module includes:

> i)   an establishment module for establishing a
>   first operating mode for the second data
>   store whereby the second data store is
>   brought into synchronism with the first
>   data store[[,]]; and

> ii) a split module for shifting the second data
>   store to a second operating mode after
>   synchronism is achieved during which:
>   a)   the copy program copies all of the
>   data from the second data store to the
>   data store in the second remote site
>   in response to the information in the
>   third table[[,]]; and
>   b)   the first and second tables are
>   updated each time the data in the
>   first data store is altered.

38 (previously presented).   A program as recited in claim 37
   wherein the host generates a first command to activate
   said reestablishment module and a second command to
   activate said differential splitting module and wherein
   the program conveys the first and second commands to the
   first remote site on an iterative basis for effecting a
   cascading session during which the first and second
   operating modes are processed on a mutually exclusive
   basis.

39 (previously presented).   A program as recited in claim 37
    wherein the magnetic disk storage devices have data
    storage tracks and wherein said copying occurs on a track-
    by-track basis, each of the first, second and third tables
    being formed as track tables with one bit position
    corresponding to one track.

40 (previously presented).   A program as recited in claim 39
    wherein the first data store includes storage for diverse
    information about each track, said program copying the
    diverse information to the second table.

41 (currently amended). A program as recited in claim 40
    wherein the host generates a first command to activate
    said establishment module, a second command to activate
    said splitting module, and third and fourth commands
    iteratively and on a mutually exclusive basis, the third
    command activating the reestablishment module and the
    fourth command activating said differential splitting
    whereby the repeated processing of the third and fourth
    commands effect a cascading session.